Progress Energy

Crystal River Nuclear Plant
Docket No. 50-302
Operating License No. DPR-72

Ref: 10 CFR 54

December 16, 2008
3F1208-01

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Subject: Crystal River Unit 3 – Application for Renewal of Operating License

Dear Sir:

Pursuant to 10 CFR Part 54, Florida Power Corporation (FPC), doing business as Progress Energy Florida, Inc., hereby applies for the renewal of the operating license for the Crystal River Unit 3 Nuclear Generating Plant (CR-3) to extend the term of its operating license an additional 20 years beyond the current expiration date. Upon renewal in accordance with this request, the term of the operating license would be extended from midnight December 3, 2016, until midnight December 3, 2036.

The enclosed License Renewal (LR) Application contains the information required by 10 CFR Part 54 for filing an application. FPC has utilized the guidance for license renewal application content contained in Regulatory Guide 1.188, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," Revision 1, dated September 2005.

As required by 10 CFR 54.21(b), current licensing basis changes which have a material effect on the content of this application will be identified at least annually while the application is under review by the NRC staff and at least three months prior to the scheduled completion of the NRC review.

Enclosure 1 provides a single compact disc (CD), formatted in a manner that is consistent with "Guidance for Electronic Submissions to the NRC," Revision 4, dated October 29, 2008. The CD contains the following files, suitable for entry into the NRC's Agencywide Documents Access and Management System (ADAMS): CR-3 LR Application and CR-3 Environmental Report (ER) Supplement.

| List of Electronic Files | | |
|---|---|---|
| **File Name** | **Approximate File Size** | **Access** |
| 001_CR3 LR Application.pdf | 22,200 KB | Publicly Available |
| 002_CR3 ER Supplement.pdf | 21,700 KB | Publicly Available |

Enclosure 2 provides the list of regulatory commitments made in this application. Any other actions discussed should be considered intended or planned actions; they are included for informational purposes but are not considered to be regulatory commitments.

CD non-compliant w/NRC Requirement.
Paper copy being processed per PM

A035
NRR

**Progress Energy Florida, Inc.**
Crystal River Nuclear Plant
15760 W. Powerline Street
Crystal River, FL 34428

To facilitate NRC review, the following information-only items are being provided to Mr. Rob Kuntz, the NRC License Renewal Project Manager for CR-3:

- Eighty (80) CDs containing the CR-3 License Renewal Application and CR-3 Environmental Report Supplement in electronic format,
- One (1) CD with the CR-3 License Renewal Application and CR-3 Environmental Report Supplement in electronic format suitable for posting on the NRC web page, and
- Four (4) paper copies of the CR-3 License Renewal Application and CR-3 Environmental Report Supplement (three (3) copies sent to NRR and one (1) copy sent to Region II).

Please refer any questions regarding this submittal to Mr. Mike Heath, Supervisor - License Renewal, at (910) 457-3487, e-mail at mike.heath@pgnmail.com.

Sincerely,

Dale E. Young
Vice President
Crystal River Nuclear Plant

DEY/dwh

Enclosures: 1. CR-3 License Renewal Application Submittal and CR-3 Environmental Report Supplement CD-ROM
2. List of Regulatory Commitments

xc (with enclosures):
NRC License Renewal Project Manager
NRC Regional Administrator, Region II

xc (without enclosures):
Senior Resident Inspector
NRC CR-3 Project Manager
Director, Division of Economic Regulation, FPSC

**STATE OF FLORIDA**

**COUNTY OF CITRUS**

Dale E. Young states that he is the Vice President, Crystal River Nuclear Plant for Florida Power Corporation, doing business as Progress Energy Florida, Inc.; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.

Dale E Young

Dale E. Young
Vice President
Crystal River Nuclear Plant

The foregoing document was acknowledged before me this 16 day of December, 2008, by Dale E. Young.

Carolyn E Portmann

Signature of Notary Public
State of Florida

CAROLYN E. PORTMANN
Notary Public - State of Florida
My Commission Expires Mar 1, 2010
Commission # DD 624380
Bonded By National Notary Assn.

(Print, type, or stamp Commissioned Name of Notary Public)

Personally Known ✓ -OR- Produced Identification _____

PROGRESS ENERGY FLORIDA, INC.

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50 - 302 / LICENSE NUMBER DPR - 72

ENCLOSURE 1

CR-3 LICENSE RENEWAL APPLICATION SUBMITTAL AND CR-3 ENVIRONMENTAL REPORT SUPPLEMENT CD-ROM

PROGRESS ENERGY FLORIDA, INC.

CRYSTAL RIVER - UNIT 3

DOCKET NUMBER 50 - 302 / LICENSE NUMBER DPR - 72

# ENCLOSURE 2

# LIST OF REGULATORY COMMITMENTS

## List of Regulatory Commitments

The following table identifies those actions committed to by Florida Power Corporation (FPC) in this document. Any other actions discussed in the submittal represent intended or planned actions by FPC. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Supervisor, Licensing and Regulatory Programs of any questions regarding this document or any associated regulatory commitments.

| CRYSTAL RIVER UNIT 3 LICENSE RENEWAL COMMITMENTS | | | | |
|---|---|---|---|---|
| **ITEM NO.** | **COMMITMENT** | **FINAL SAFETY ANALYSIS REPORT (FSAR) SUPPLEMENT LOCATION** | **PROGRAM IMPLEMENTATION SCHEDULE** | **LICENSE RENEWAL APPLICATION (LRA) SOURCE** |
| 1 | In accordance with the guidance of NUREG-1801, Rev. 1, regarding aging management of reactor vessel internals components, CR-3 will: (1) participate in the industry programs for investigating and managing aging effects on reactor internals; (2) evaluate and implement the results of the industry programs as applicable to the reactor internals; and, (3) upon completion of these programs, but not less than 24 months before entering the period of extended operation, submit an inspection plan for reactor internals to the NRC for review and approval. | A.1.1 | As stated in the commitment | Reactor Vessel Internals Aging Management Activities<br><br>LRA Section A.1.1 |
| 2 | In accordance with the guidance of NUREG-1801, Rev. 1, regarding aging management of nickel alloy and nickel-clad components susceptible to primary water stress corrosion cracking, CR-3 will comply with applicable NRC Orders and will implement applicable: (1) Bulletins and Generic Letters and (2) staff-accepted industry guidelines. | A.1.1 | As stated in the commitment | Primary Water Stress Corrosion Cracking of Nickel Alloys<br><br>LRA Section A.1.1 |
| 3 | The Program will be enhanced to select an alternate lubricant that is compatible with the fastener material and the contained fluid. | A.1.1.3 | Prior to the period of extended operation | Reactor Head Closure Studs Program<br><br>LRA Section B.2.3 |
| 4 | The Thermal Aging and Neutron Irradiation Embrittlement of Cast Austenitic Stainless Steel (CASS) Program is a new program to be implemented. | A.1.1.6 | Prior to the period of extended operation | Thermal Aging and Neutron Irradiation Embrittlement of Cast Austenitic Stainless Steel (CASS) Program<br><br>LRA Section B.2.6 |

| CRYSTAL RIVER UNIT 3 LICENSE RENEWAL COMMITMENTS | | | | |
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| 5 | Program administrative control documents will be enhanced to include: (1) guidance for torquing and closure requirements based on the EPRI documents endorsed by NUREG-1801; (2) requirements to remove instances where molybdenum disulfide lubricant is allowed for use in bolting applications in specific procedures and to add a general prohibition against use of molybdenum disulfide lubricants for bolted connections; (3) guidance for torquing and closure requirements that include proper torquing of the bolts and checking for uniformity of gasket compression after assembly; (4) guidance for torquing and closure requirements based on the guidance of EPRI 5067, "Good Bolting Practices, A Reference Manual for Nuclear Power Plant Personnel," Volumes I and II; (5) a centralized procedure based on EPRI-5067 containing guidance regarding bolted joint leak tightness and pre-installation inspections consistent with the recommendations of that document; (6) periodic examinations of a representative sample of bolting identified as potentially having actual yield strength >150 ksi for SCC consisting of periodic in situ ultrasonic testing or, alternatively, surface examination or bolt replacement; (7) examination of NSSS support high strength bolting for SCC concurrent with examinations of the associated supports at least once per 10-year ISI period; and, (8) acceptance standards for examination of high strength structural bolting consistent with the recommendations of EPRI NP-5769 or application specific structural analyses. | A.1.1.8 | Prior to the period of extended operation | Bolting Integrity Program<br><br>LRA Section B.2.8 |

| CRYSTAL RIVER UNIT 3 LICENSE RENEWAL COMMITMENTS | | | | |
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| 6 | The Program will be enhanced to: (1) include the Nuclear Services and Decay Heat Seawater System Pumps in a periodic inspection and/or rebuild program (This Program will be initiated during the current license period and inspect one or more pumps prior to the period of extended operation.); (2) subject the Nuclear Services and Decay Heat Seawater System Discharge Conduits to inspection and evaluation subsequent to the SG replacement project, but prior to the period of extended operation, in order to determine the extent of activities required during the period of extended operation to support the intended function of these components; and, (3) establish periodic maintenance activities for Nuclear Services and Decay Heat Seawater System expansion joints prior to the period of extended operation. | A.1.1.10 | As stated in the commitment | Open-Cycle Cooling Water System Program<br><br>LRA Section B.2.10 |
| 7 | Administrative controls for the Program will be enhanced to: (1) include in the Program all cranes within the scope of License Renewal; (2) require the responsible engineer to be notified of unsatisfactory crane inspection results involving loss of material; (3) specify the frequency of inspections for the cranes within the scope of License Renewal to be every refueling outage for cranes in the Reactor Building and every two years for cranes outside the Reactor Building; and, (4) clarify that crane rails are to be inspected for abnormal wear and that members to be inspected for cracking include welds. | A.1.1.12 | Prior to the period of extended operation | Inspection of Overhead Heavy Load and Light Load Handling Systems Program<br><br>LRA Section B.2.12 |
| 8 | The Program administrative controls will be enhanced to: (1) include specific guidance for periodic inspection of fire barrier walls, ceilings, and floors including a requirement to notify Fire Protection of any deficiencies having the potential to adversely affect the fire barrier function; (2) include additional inspection criteria as described in NUREG-1801 for penetration seals; (3) include additional inspection criteria for corrosion of fire doors; and, (4) specify minimum qualification requirements for personnel performing visual inspections of penetrations seals and fire doors. | A.1.1.13 | Prior to the period of extended operation | Fire Protection Program<br><br>LRA Section B.2.13 |

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| 9 | The Program will be enhanced to: (1) incorporate a requirement to perform one or a combination of the following two activities:<br><br>(a) Implement periodic flow testing consistent with the intent of NFPA 25, or<br>(b) Perform wall thickness evaluations to verify piping is not impaired by pipe scale, corrosion products, or other foreign maternal. For sprinkler systems, this may be done by flushing, internal inspection by removing one or more sprinkler heads, or by other obstruction investigation methods, (such as technically proven ultrasonic and X-ray examination) that have been evaluated as being capable of detecting obstructions. (These inspections will be performed before the end of the current operating term. The results from the initial inspections will be used to determine inspection intervals thereafter during the period of extended operation.),<br><br>(2) perform internal inspections of system piping at representative locations as required to verify that loss of material due to corrosion has not impaired system intended function. Alternately, non-intrusive inspections (e.g., ultrasonic testing) can be used to verify piping integrity. (These inspections will be performed before the end of the current operating term. The results from the initial inspections will be used to determine inspection intervals thereafter during the period of extended operation.),<br>(3) incorporate a requirement to perform a visual inspection of yard fire hydrants annually consistent with the intent of NFPA 25 to ensure timely detection of signs of degradation, such as corrosion; and, (4) consistent with the intent of NFPA 25, either replace the sprinkler heads prior to reaching their 50-year service life or revise site procedures to perform field service testing, by a recognized testing laboratory, of representative samples from one or more sample areas. (Subsequent test intervals will be based on test results.) | A.1.1.14 | Prior to the period of extended operation | Fire Water System Program<br><br>LRA Section B.2.14 |

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| 10 | The Aboveground Steel Tanks Program is a new program to be implemented. | A.1.1.15 | Prior to the period of extended operation | Aboveground Steel Tanks Program<br><br>LRA Section B.2.15 |
| 11 | The Program will be enhanced to: (1) adjust the inspection frequency for the Diesel-Driven Emergency Feedwater Pump Fuel Oil Storage Tank to ensure an inspection is performed prior to the period of extended operation; (2) inspect the internal surfaces of the Diesel-Driven Fire Pump Fuel Oil Storage Tanks; and, (3) develop a work activity to periodically inspect the internal surfaces of the Diesel-Driven Fire Pump Fuel Oil Storage Tanks. | A.1.1.16 | Prior to the period of extended operation | Fuel Oil Chemistry Program<br><br>LRA Section B.2.16 |
| 12 | The Program will be enhanced to: (1) ensure that neutron exposure conditions of the reactor vessel remain bounded by those used to project the effects of embrittlement to the end of the 60-year extended license period and (2) establish formalized controls for the storage of archived specimens to ensure availability for future use by maintaining the identity, traceability, and recovery of the archived specimens throughout the storage period. | A.1.1.17 | Prior to the period of extended operation | Reactor Vessel Surveillance Program<br><br>LRA Section B.2.17 |
| 13 | The One-Time Inspection Program is a new program to be implemented. | A.1.1.18 | Prior to the period of extended operation | One-Time Inspection Program<br><br>LRA Section B.2.18 |
| 14 | The Selective Leaching of Materials Program is a new program to be implemented. | A.1.1.19 | Prior to the period of extended operation | Selective Leaching of Materials Program<br><br>LRA Section B.2.19 |
| 15 | The Buried Piping and Tanks Inspection Program is a new program to be implemented. | A.1.1.20 | Prior to the period of extended operation | Buried Piping and Tanks Inspection Program<br><br>LRA Section B.2.20 |

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| 16 | The One-Time Inspection of ASME Code Class 1 Small-Bore Piping Program is a new program to be implemented. | A.1.1.21 | Prior to the period of extended operation | One-Time Inspection of ASME Code Class 1 Small-Bore Piping Program<br><br>LRA Section B.2.21 |
| 17 | The Program will be enhanced to: (1) ensure that the Program encompasses all of the systems and components that credit it for aging management; (2) include inspection attributes adequate for detecting aging effects and mechanisms and for characterizing degradation consistent with the expected degradation of the systems and components crediting the Program for aging management; (3) incorporate measures to assure the integrity of surfaces that are inaccessible or not readily visible during both plant operations and refueling outages; and, (4) incorporate inspection attributes for degradation of coatings. | A.1.1.22 | Prior to the period of extended operation | External Surfaces Monitoring Program<br><br>LRA Section B.2.22 |
| 18 | The Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components Program is a new program to be implemented. | A.1.1.23 | Prior to the period of extended operation | Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components Program<br><br>LRA Section B.2.23 |
| 19 | Program administrative controls will be enhanced to identify the structures that have masonry walls in the scope of License Renewal. | A.1.1.29 | Prior to the period of extended operation | Masonry Wall Program<br><br>LRA Section B.2.29 |

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| 20 | Program will be enhanced by revising the administrative controls that implement the Program to: (1) identify all License Renewal structures and systems that credit the Program for aging management in the corporate procedure for condition monitoring of structures; (2) require notification of the responsible engineer when below grade concrete including concrete pipe is exposed so an inspection may be performed prior to backfilling; (3) require periodic groundwater chemistry monitoring including consideration for potential seasonal variations; (4) require periodic inspections of the water control structures, i.e., Circulating Water Intake Structure, Circulating Water Discharge Structure, Nuclear Service Sea Water Discharge Structure, Intake Canal, and Raw Water Pits, on a frequency not to exceed five years; (5) require periodic inspections of the Circulating Water Intake Structure submerged portions on a frequency not to exceed five years; (6) identify additional civil/structural commodities and associated inspection attributes and performance standard required for License Renewal in the corporate procedure for condition monitoring of structures; (7) identify additional inspection criteria for structural commodities in the site system walkdown checklist; (8) add inspection of corrosion to the inspection criteria for the bar racks at the Circulating Water Intake Structure as a periodic maintenance activity; (9) add an inspection of the earth for loss of form and loss of material for the Wave Embankment Protection Structure as a periodic maintenance activity; (10) include additional in-scope structures and specific civil/structural commodities in periodic engineering activities; and, (11) require periodic inspections of the Fluorogold slide bearing plates used in structural steel platform applications in the Reactor Building. | A.1.1.30 | Prior to the period of extended operation | Structures Monitoring Program<br><br>LRA Section B.2.30 |

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| 21 | The Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program is a new program to be implemented. | A.1.1.31 | Prior to the period of extended operation | Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program<br><br>LRA Section B.2.31 |
| 22 | The Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits Program is a new program to be implemented. | A.1.1.32 | Prior to the period of extended operation | Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits<br><br>LRA Section B.2.32 |
| 23 | The Inaccessible Medium Voltage Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program is a new program to be implemented. | A.1.1.33 | Prior to the period of extended operation | Inaccessible Medium Voltage Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program<br><br>LRA Section B.2.33 |
| 24 | The Metal Enclosed Bus Program is a new program to be implemented. | A.1.1.34 | Prior to the period of extended operation. | Metal Enclosed Bus Program<br><br>LRA Section B.2.34 |
| 25 | The Fuse Holder Program is a new program to be implemented. | A.1.1.35 | Prior to the period of extended operation | Fuse Holder Program<br><br>LRA Section B.2.35 |

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| 26 | The Electrical Cable Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program is a new program to be implemented. | A.1.1.36 | Prior to the period of extended operation | Electrical Cable Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program<br><br>LRA Section B.2.36 |
| 27 | Administrative controls for the Program will be enhanced to: (1) include provisions to monitor and trend data for incorporation in test procedures to ensure the projection meets the acceptance criteria and (2) incorporate acceptance criteria tables for accumulated weight losses of monitored Carborundum samples. | A.1.1.37 | Prior to the period of extended operation | Carborundum ($B_4C$) Monitoring Program<br><br>LRA Section B.2.37 |
| 28 | The High-Voltage Insulators in the 230KV Switchyard Program is a new program to be implemented. | A.1.1.38 | Prior to the period of extended operation | High-Voltage Insulators in the 230KV Switchyard Program<br><br>LRA Section B.2.38 |